RESPONSE

Applicants have developed new methods for manufacturing conductive lamp housings and new lamp housings which are made possible because of these methods. As such, applicant believes that the claims, as amended, clearly define patentable subject matter.

As for the apparatus claims, the Examiner has rejected claim 16 under § 102(e) as being anticipated by Suzuki, Hancox, Forish, or Harris. The Examiner has also rejected claims 17-30, under § 103(a) as being unpatentable over these same references. Applicant acknowledges that the method of forming a device is not germane to the issue of patentability of the device itself. However, where the prior art does not teach a method of manufacture which enables the manufacture of a device, then the device itself cannot be anticipated, by the references. Nor is such a device likely to be obvious. Thus, claim 27, with its requirement that the conductive layer be 1 to 4 microns thick, was not anticipated by nor obvious in light of the cited references. Applicant has imported the language of claim 27 into independent claim 16 and, by extension, all claims that depend from it. To further distinguish the claimed invention has also added the limitation that the conductive layer is deposited *directly* onto the substrate, as opposed to on some intermediate or independent layer that may then be attached to the substrate in some manner.

Neither Suzuki, Hancox, Forish, nor Harris enable any method of manufacture of a conductive layer that is 1 to 4 microns thick that is deposited directly onto the substrate

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of the lamp assembly. Nor would such a conductive layer be obvious, or a mere "optimum value" of a "result effective variable."

Suzuki teaches that the conductive layer must be part of a ""flat arranging material 28," a flexible print circuit or a flexible flat circuit, col. 4, lines 41-42, and that this "belt-like" flat arranging material is then fixed within a concave groove 27 of the substrate, col. 4 lines 9-11. Hancox, similarly, teaches that the electrically conductive elements be separate components that have apertures through which pass heat deformable spigots for attachment to the lamp assembly substrate, col. 3, lines 59-69, which would preclude a conductive layer 1 to 4 microns thick. Harris teaches that the conductor is first applied to a flexible printed circuit board 43. col. 2, lines 24-36. Forish teaches that the conductors are first stamped, Col. 6, lines 5-9, which would not permit a conductive layer 1 to 4 microns thick. None of these references teaches, nor renders obvious, a conductive layer that is 1 to 4 microns thick that is deposited directly onto the substrate of the lamp assembly.

The heavier construction called for by these prior art references was considered appropriate given the handling and operation conditions of many lamp assemblies. They are often handled by consumers, or in repair shops under relatively rugged conditions. Moreover, many such lamp assemblies are used in vehicles, where they are constantly subject to significant wear and tear. A conductive layer of 1 to 4 microns deposited directly on the lamp substrate, even if feasible given the prior art manufacturing processes, would not have been considered optimum in light of these conditions.

Moreover, a conductive layer that is pre-formed on a circuit board or in a flexible flat circuit involves very different manufacturing considerations and can be made under tighter tolerances than a conductive layer deposited directly on a lamp assembly substrate. Lamp assembly substrates are larger components, often contoured, which make positioning and even distribution more difficult, particularly where only 1 to 4 microns of conductive material is being deposited.

For all of these reasons, therefore, a conductive layer of 1 to 4 microns deposited directly on the lamp substrate is not simply selecting an optimum value of a result effective variable involving only routine skill. These references clearly do not teach, or render obvious, the claimed apparatus. As such, claims 16-30, as amended, should be are patentable.

Similarly, the method claims, existing claims 1-15, and new claims 31-34, are neither taught nor rendered obvious by the prior art. First, these claims each claim a method, not a device. The Examiner's objection that method of forming the device is not germane to the issue of patentability, thus not giving the limitations in the method claims patentable weight, is not appropriate in this context. Thus, the references discussed above, fail to teach or suggest, jointly or separately, the claimed methods of making a conductive lamp housing by depositing particles by direct metallization to form a layer of conductive material on a contoured surface of a substrate to form one or more circuits for light sources in a light assembly.

Moreover, neither of the additional cited references – Crotzer and Longueville – teach the deposition of particles by direct metallization of a lamp substrate, particularly a

contoured surface of a lamp substrate, as called for in the claims as amended and the new claims.

Crotzer teaches the manufacture of a circuit board, not a lamp assembly, involving the "grafting" of an electrically conductive elastomer material to form circuits, col. 3, line 65 – col. 4, line 11, not deposition by direct metallization of the lamp housing. Similarly, the only reference in Longueville to metal-coated materials refers to the housing, which can then be used, according to the teaching, to provide a connection to ground to enhance shielding, Col. 9, lines 37-45. Merely providing a connection ground, however, as taught in the Longueville reference, does not require the relatively precise distribution of deposited material required to provide electrical connections for electrical components such as the claimed light sources. In short, neither Crotzer nor Longueville teach or suggest the deposition by direct metallization of a conductive layer to form circuits for light sources.

Respectfully submitted,

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